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THE TARIFF-ONLY IMPORT REGIME FOR BANANAS IN THE EUROPEAN UNION: IS SETTING THE TARIFF AT RIGHT LEVEL AN IMPOSSIBLE MISSION?

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Abstract. The European Union is bound by World Trade Organisation agreements to move to a tariff-only import system for bananas no later than 1 January 2006. From that date, imports from non-ACP countries will be subject to a single tariff while ACP country bananas will continue to enter the EU market duty free. This regime will replace the highly contested tariff-rate quota policy in place since 1993. This paper shows that setting the tariff at a level that maintain the status quo is an impossible mission given uncertainties on quota rent estimates and quota rent distribution.

Keywords. Bananas, European Union, tariff-rate quota, tariff, ACP countries.

1. Introduction

The current Common market organisation for bananas (CMOB) in the European Union (EU) includes deficiency payments for European producers, a general tariff-rate quota open to all countries, a specific tariff-rate quota reserved to African, Caribbean and Pacific (ACP) suppliers and a complex system of import licences. While imports under the general quota are subject to an in-quota tariff of € 75 per tonne up to maximum of 2.653 million tonnes, ACP bananas enter the EU market duty free up to a maximum of 750 000 tonnes. Over-quota tariffs are prohibitive for all suppliers.

The trade regime of the CMOB should be replaced by a tariff-only system no later than 1 January 2006. From that date, ACP bananas will continue to enter the EU market duty free while bananas from non-ACP sources will be subject to a single tariff which is currently the object of difficult negotiations. What should change in January 2006 is the EU import regime, not the level of support provided to European producers neither the level of protection offered to ACP producers nor the level of market access granted to non-ACP countries. But in the course of negotiations to move to the tariff-only system, setting this single tariff at right level increasingly appears as an impossible mission. The EU proposal notified to the World trade organisation (WTO) on 31 January 2005 is a duty of € 230 per tonne which does not please both non-ACP and ACP suppliers. Non-ACP countries consider that such a tariff level will not allow them to maintain their EU market share. Six Latin American exporting countries (Ecuador, Colombia, Costa Rica, Guatemala, Honduras and Panama) have thus requested arbitration at the WTO on the duty level proposed by the EU, calling for a tariff lower than € 75 per tonne (FAO, 2004). On the other hand, ACP countries consider that a tariff level of € 230 per tonne is not high enough to protect them from competition from lower cost suppliers of Latin America. They call for a duty of € 275 per tonne (European Commission, 2004). That country and/or stakeholder claims differ so much is of course not surprising. The problem is that in most cases,

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countries and/or stakeholders base their claims on the conclusions of economic studies which also exhibit large discrepancies as tariff-equivalent estimates range from less to € 75 per tonne (Borrell and Mauer, 2004) to more than € 350 per tonne (Kersten, 2003).

Studies that have attempted to estimate the tariff equivalent to the current tariff-rate quota system can be divided in two groups according to the methodology used, the price-gap approach and simulation model results. The methodologies are not exclusive. For example, Borrell and Mauer (2004) use their price-gap estimate of the tariff equivalent to calibrate the degree of protection granted by the EU to ACP suppliers in their partial equilibrium model of the world banana market. As a result, one cannot conclude that one methodology leads to tariff-equivalent estimates that are rather low, say € 100 per tonne or less, while the second concludes that the tariff should be set at a rather high level, say € 200 per tonne or more. Studies differ a lot in terms of data sets, calibration period, geographical decomposition and/or aggregation and for analyses based on model results, in terms of behavioural parameter calibration.[2] This of course can have an impact on tariff-equivalent estimates. In this paper however, we show that the very large discrepancies between studies can largely be explained by one factor, the relative share of quota rents the current tariff-rate quota system generates which is captured by non-ACP suppliers and exporters. Of course, quota rent amounts also matter. But there is relatively less uncertainty on these amounts relative to their distribution among players.

The remainder of the paper is organised as follows. Section 2 presents the empirical literature review on tariff-equivalent systems. This leads us to formulate the following hypothesis to explain the large discrepancies across studies: the higher the share of quota rents captured by non-ACP suppliers and exporters, the higher the tariff-equivalent estimate. This assumption is tested empirically in Section 3 on the basis of simulation results performed with a partial equilibrium model of the world banana market. Section 4 concludes.

2. Estimating the tariff equivalent, price-gap and simulation models

The price-gap approach

The price-gap approach is codified in the Attachment to Annex 5 of the Uruguay Round Agreement on Agriculture (URAA). The price gap is measured as the difference between an internal price and an external price. The internal price should be a representative wholesale price ruling in the domestic market or where adequate data are not available, an estimate of that price. External prices should ideally be CIF (cost, insurance and freight) unit values in the importing country. Where such values are not available or appropriate, external prices can be evaluated either by CIF unit values in a near country or from FOB (free on board) unit values in an appropriate exporting country adjusted by adding an estimate of insurance, freight and other relevant costs to the importing country.

Assuming that the internal price is the landed CIF price of EU imports from ACP countries and EU territories and the external price is the landed CIF price of EU imports from non-ACP countries, Borrell and Mauer (2004) find a tariff equivalent of € 64 per tonne for the year 2000. Raboy (2004) defines the internal price as the CIF price in the EU of ACP-sourced bananas and proposes four alternatives for the external price, i.e., (i) the price in a near market (Norway), (ii) the price in the United States (US) market adjusted to convert it into an estimate of the EU price, (iii) the average price in six Central or Eastern European Countries (CEECs) and (iv) the average CIF price in the EU. Estimated price gaps range between € 50 and 75 per tonne for the three-year period 2000-2002. Raboy adds "portions of the simple tariff [of € 75 per tonne] to the price gap to produce the range of plausible

[2] Interestingly, one will note that all models assume perfect competition despite the limited number of players at various stages of the world banana chain. We will discuss this issue of perfect versus imperfect competition in the conclusion.

possibilities that measure the tariff equivalent to the total current regime". As a result, the tariff equivalent ranges between € 106 (50 % of the current tariff is added) and € 143 per tonne (100 % of the current tariff is added).

On the other hand, NERA and OPM (2004) calculate the price gap as the difference between average FOB export prices of Caribbean countries (the internal price) and non-ACP countries (the external price). Based on price data from 1999 to 2002, they find a tariff equivalent of € 259 per tonne. They consider that this estimate represents a lower boundary of the tariff equivalent notably because transports costs of the Caribbean producers are likely to be higher than those of the Latin American suppliers.[3]

To summarise, price-gap calculations based on CIF price comparisons conclude that the tariff equivalent should be rather low, at the extreme € 64 per tonne for Borrell and Mauer (2004), while price-gap studies that employ FOB prices conclude that the tariff equivalent should be much higher, around € 260 per tonne for NERA and OPM (2004). This divergence can partially be explained by the fact that CIF prices are EUROSTAT data and FOB prices are FAO data. Both sources of data are clearly not fully consistent. From our point of view however, this divergence largely results from two extreme assumptions made as regards the share of the general quota rent non-ACP exporters capture. Defining the internal price using CIF unit values in the EU implies that the quota rent is not captured by non-ACP exporters but by downstream stage players in the EU, i.e., importers, wholesalers and/or retailers. Conversely, defining the internal price on the basis of FOB unit values in non-ACP countries assumes that non-ACP exporters are able to get the lion's share of the general quota rent.

Simulation model results

In the second group of studies, tariff-equivalent estimates are obtained, implicitly or explicitly, from simulation results performed with different partial equilibrium models of the world banana market. Some studies find that the tariff equivalent should be set at a rather low level, less than € 100 euros per tonne for Borrell and Mauer (2004) as well as for Vanzetti et al.(2004).[4] Other studies find that the tariff level should be set at a rather high level, around € 200 euros for Guyomard and Le Mouël (2003), € 227 euros for Guyomard et al. (2005), around € 300 euros for the FAO (2003), and around € 350 euros per tonne for Kersten (2003).

All models assume perfect competition. They however differ in terms of data used, country coverage, supply and demand elasticities, the euro / $ US parity,[5] etc. These differences have of course an impact on simulation results and tariff-equivalent estimates (FAO, 2004). From our point of view however, the key parameter which explain why some models find rather low tariff equivalents and others rather high tariff equivalents is again the share of the general quota rent which is captured by non-ACP exporters.

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[3] In theory, insurance, freight and other relevant costs should be added to transform FOB into CIF prices. NERA and OPM note that "transport costs from the Caribbean ACP countries to the EU are, if anything, higher than from dollar sources". They conclude that their FOB price comparison is likely to underestimate the real price gap.

[4] The terminology can be misleading as Borrell and Mauer (2004) as well as Vanzetti et al. (2004) do not calculate the tariff equivalent to the current tariff-rate quota system. In the case of Borrell and Mauer (2004), attention is focused on non-ACP countries and a tariff will be said equivalent when it maintains non-ACP exports to the EU at base period levels. In the case of Vanzetti et al. (2004), a tariff will be said equivalent if it maintains ACP exports to the EU at base period levels.

[5] Guyomard and Le Mouël (2003) illustrate the high sensitivity of the tariff equivalent to the € / $ US exchange rate, other things being equal. In a general way, if the € strengthens (respectively weakens) vis-à-vis the $ US, then the estimated tariff equivalent increases (respectively decreases). More specifically, Guyomard and Le Mouël (2003) find that any decrease in the € / $ US dollar parity by 10 percent increases their estimate of the tariff equivalent by about € 12 per tonne.

Let us first consider studies that conclude that the tariff equivalent should be set at a rather low level.

Borrell and Mauer (2004) use an updated version of the famous "bananarama" model initially developed in the early 1990s (Borrell and Yang, 1990, 1992; Borrell and Cuthberston, 1991) to explore the effects of various tariff levels on the structure of EU imports. Consistently with assumptions they make in their price-gap analysis (see above), Borrell and Mauer (2004) assume that no quota rent is captured by suppliers and/or exporters. In other words, even if their model assumes perfect competition, they implicitly assume that licence holders have enough market power so that they do not share quota rents with their suppliers (FAO, 2004). Borrell and Mauer (2004) also assume that West African supply responsiveness is equivalent to that of Latin American suppliers. Under these assumptions, they find that there is 78 per cent chance that Latin American exports to the EU decline with a tariff of € 100 per tonne and 22 per cent chance that these exports decline with a tariff of € 75 per tonne. Only a tariff lower than € 40 per tonne would guarantee that Latin American exports to the EU would not decrease.

Vanzetti et al. (2004) also use a partial equilibrium bilateral trade model of the world banana market where banana imports from different sources are considered as imperfect substitutes. Relative to the case of homogenous goods, this first assumption tends to reduce the tariff equivalent, other things being equal, as substitution possibilities between different sources are limited. Vanzetti et al. (2004) assume that both the general and specific tariff-rate quotas are binding. More precisely, they assume a domestic price in the EU of € 800 per tonne and a world price of € 500 per tonne. This price gap generates a unit quota rent of € 300 per tonne and a total quota rent of € 759 million in the base year (2002, EU-15). Of this available rent, € 215 million are generated on imports of 747,000 tonnes from the ACP countries and € 545 million on imports of 2.537 million tonnes from the non-ACP countries. Tariff revenue on non-ACP imports amounts to around € 181 million. Vanzetti et al. (2004) explicitly state that the ACP suppliers and/or exporters get € 110 per tonne, i.e., 37 percent of the unit quota rent of € 300 per tonne on their exports to the EU. The remainder goes to distributors to whom quotas are initially allocated. They do not explicitly define the share of the quota rent captured by the non-ACP suppliers and/or exporters on their exports to the EU. Under these assumptions, Vanzetti et al. (2004) find that an EU free market would increase total exports to the EU by 36 percent and ACP exports to the EU by 15 percent. In that scenario, the expansion in the EU market more than compensates the ACP producers for losses in available rents. However, Cameroon and Ivory Coast would gain at the expense of the Caribbean ACP states. A tariff of € 75 per tonne would leave ACP exporters no worse off than the status quo, at least in terms of export revenues. Vanzetti et al. (2004) clearly recognize that their results are sensitive to the assumption that the ACP suppliers capture € 110 per tonne of the quota rent on their exports. Surprisingly, they do not highlight and illustrate the sensitivity of their results to the share of the quota rent captured by the non-ACP suppliers and/or exporters. The authors conclude that because of the differences in production costs in the various ACP countries, no single preferential tariff can leave all ACP states in a similar situation as before the policy change.

On the other hand, studies that conclude that the tariff equivalent should be set at a rather high level assume, at least implicitly, that the non-ACP suppliers and/or exporters capture the lions share of quota rents the system generates. For example, Guyomard et al. (2005) assume that the general quota is binding but not the specific quota. The estimated unit general quota rent in 2000-02 for the EU-25 is € 227 per tonne. Part of the this rent (33 per cent) is captured by the EU budget thanks to the tariff of € 75 per tonne levied on imports from non-ACP countries and part (66 per cent) is here assumed to be captured by the non-ACP suppliers and/or exporters. The ACP suppliers and/or exporters are assumed to get no rent. Accordingly, Guyomard et al. (2005) conclude that the static tariff equivalent to the current tariff-rate quota system is € 227 per tonne. Setting the tariff at this level would allow to reproduce the import structure that prevailed in the base period 2000-02. Banana exports from both the non-ACP and the ACP countries to the EU would be unchanged, as well as the average import price in the EU. The losers would be the non-ACP suppliers and/or exporters because of the loss in quota rents. The winner would be the EU budget thanks to rising tariff revenue on unchanged imports from

the non-ACP countries. To a large extent, other studies that find a rather high tariff equivalent do make the same assumptions, i.e., a non-binding specific quota, a binding general quota, no quota rent captured by the ACP suppliers and/or exporters, and a large part of the general quota rent captured by the non-ACP suppliers and/or exporters.

3. Empirical analysis

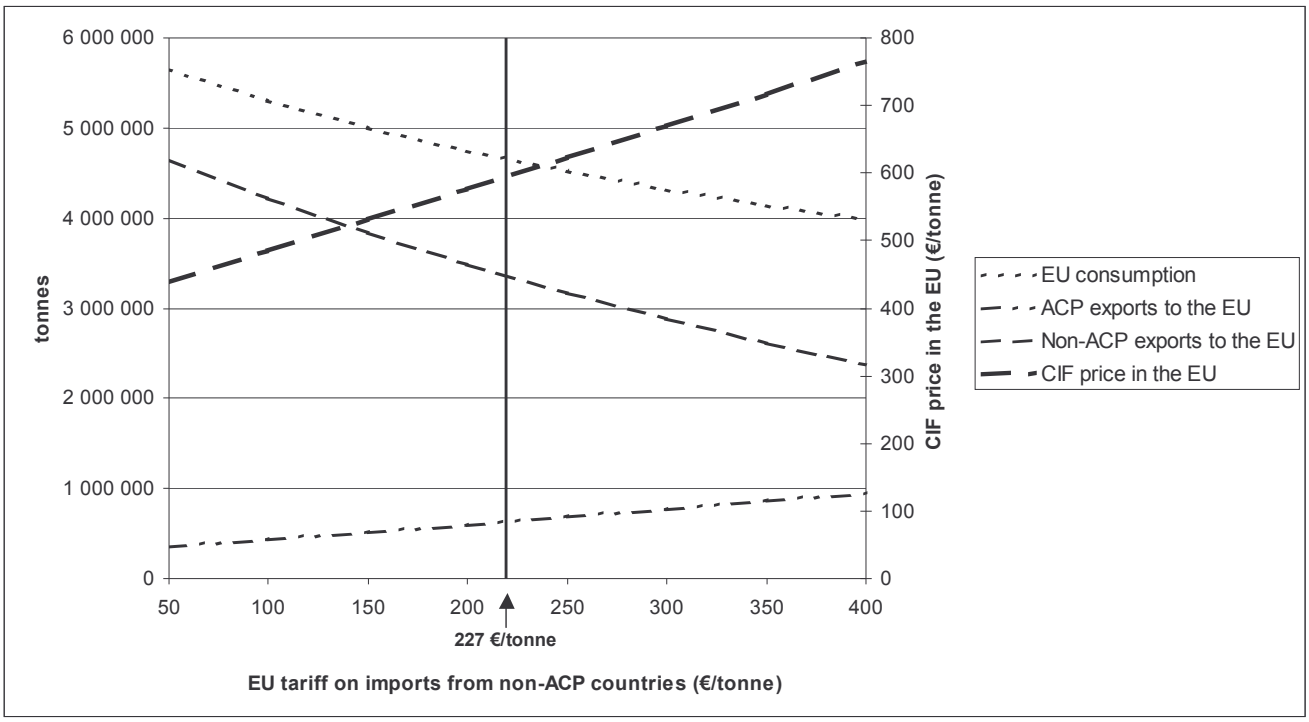
The main objective of this section is to show how quota rents, more precisely the share of quota rents captured by the non-ACP or ACP suppliers, influence tariff-equivalent estimates. To that end, we use an updated version of a single-commodity, multi-country partial equilibrium model of the world banana market initially developed to analyse the effects of the successive versions of the CMOB tariff-rate quota trade regime (Guyomard et al., 1999a, 1999b; Guyomard and Le Mouël, 2003). The model assumes perfect competition. It includes eight importing zones within the EU, including the ten new Member States, and the Rest of the World (ROW). On the export side, it distinguishes between the EU regional suppliers, i.e., the French overseas territories on the one hand, the Canary Islands, Crete and Madeira on the other hand, the ACP exporters, i.e., the two West African countries (Cameroon and Ivory Coast), Jamaica, the Windward Islands and the other ACP countries, as well as the non-ACP countries, i.e., Costa Rica, Columbia, Ecuador, Guatemala, Honduras, Panama and the other non-ACP countries. Import functions are constant-elasticity functions of CIF prices. They include time shifters estimated from data over the past fifteen years to account for non-price effects. Export functions are also constant-elasticity functions defined from FOB prices. They include time shifters to capture productivity effects. Transportation costs and constant-margin equations link CIF import prices in importing zones and FOB export prices in exporting zones. The market-clearing equation ensures the supply-demand equilibrium on the world banana market. Value and volume of bilateral trade flows are based on United-Nations (COMTRADE) and EUROSTAT (COMEXT) data. FOB and CIF unit values are derived from these value and volume data. Base period data used for model initialisation and calibration correspond to the 2000-02 year average.

Time shifters in the demand and supply equations result in dynamic effects that require the setting of a different tariff equivalent for each year of the considered simulation period. However, since our main objective here is to illustrate why and how the distribution of quota rents matters, we restrain analysis to static tariff equivalents. More specifically, we define here the tariff equivalent as the duty which should be applied on non-ACP imports to reproduce the EU import structure that prevailed in 2000-02. Before going through the details of the various experiments, the following remark is in order. All scenarios assume that deficiency payments to EU producers adjust so that effective prices taken into account by these producers are constant. As a result, the quantity of bananas produced in the EU territories is constant and the same in all scenarios.

Policy experiments 1: A non-binding specific quota, a binding general quota and 100 percent of the general quota rent captured by the non-ACP suppliers

Let us first consider the extreme case where the specific quota is not binding and 100 percent of the binding general quota rent is captured by the non-ACP suppliers. Under these assumptions, a tariff of € 227 per tonne would be equivalent to the tariff-rate quota regime that prevailed in 2000-2002. A lower duty would lead to greater imports in the EU, lower import prices, greater imports from the non-ACP countries and lower imports from the ACP countries. Conversely, a higher duty would lead to lower imports in the EU, higher import prices, lower imports from the non-ACP countries and greater imports from the ACP countries (Figure 1).

Figure 1: Static impacts of different tariff levels on the EU banana market (experiments 1)
[Assumptions of experiments 1: The specific quota rent is not binding, the general quota is binding and 100 percent of the corresponding quota rent is captured by the non-ACP suppliers.]



Policy experiments 2: A non-binding specific quota, a binding general quota and capture of the corresponding quota rent by the non-ACP suppliers between 100 and 0 percent

This second set of experiments allows us to illustrate the sensitivity of static tariff-equivalent estimation to the assumption regarding the share of the general quota rent captured by the non-ACP suppliers. More precisely, we assume that the non-ACP suppliers capture a share of the general quota rent varying between 100 and 0 percent. The remainder goes to importers, wholesalers and distributors within the EU. In all experiments, the ACP suppliers do capture zero quota rent.

The lower the capture of the general quota rent by the non-ACP suppliers, the lower the static tariff-equivalent estimate (Table 1, panel a). The two extreme cases correspond, on the one hand to a 100 % capture and a static tariff equivalent of € 227 per tonne, on the other hand to a 0 % capture and a static tariff equivalent of € 75 per tonne. It is then of interest to analyse the consequences of an overestimation (respectively underestimation) of the general quota rent capture by the non-ACP suppliers on the EU import structure. Table 1, panel b, supposes that the duty applied on non-ACP exports is 227 € per tonne. When the non-ACP suppliers capture 100 % of the general quota rent, such a duty allows to reproduce the EU import structure that prevailed in the base period 2000-02. One immediately verifies that such a duty level penalises the non-ACP countries and favour the ACP countries if in reality the share of the general quota rent captured by the non-ACP suppliers is less than 100 %. In particular, when the capture is zero, setting the tariff at € 227 per tonne decreases non-ACP exports to the EU by 25 % and increases ACP exports to the EU by 44 %. The decrease in EU imports from the non-ACP countries is greater than the increase in imports from the ACP countries. As a result, total consumption in the EU decreases and average prices in the EU increase. Conversely, Table 1, panel c, supposes that the duty is € 75 per tonne, i.e., the static tariff equivalent when the non-ACP suppliers capture 0 % of the general quota rent. If in reality the non-ACP suppliers do capture part of the rent, then setting the tariff at 75 € allows them to expand their exports to the EU. In the extreme

case where they capture 100 % of the rent, their exports to the EU increase by 19 % relative to the base period 2000-02. The opposite occurs for the non-ACP countries.

Table 1. Sensitivity analysis: Effects of alternative assumptions regarding the capture of the general quota rent by the non-ACP suppliers (experiments 2)
[Assumptions of experiments 2: The specific quota rent is not binding, the general quota is binding and the share of the corresponding quota rent captured by the non-ACP suppliers varies between 100 and 0 percent.]

Panel a. Impacts of alternative assumptions regarding the capture of the general quota rent by the non-ACP suppliers on static tariff-equivalent estimates

	Quota rent captured by the non-ACP suppliers (%)			
	100	67	34	0
Static tariff equivalent estimate (€ / tonne)	227	177	127	75

Panel b. Impacts of setting the tariff at € 227 per tonne on the EU market in function of the share of the general quota rent captured by the non-ACP suppliers

	Quota rent captured by the non-ACP suppliers			
	100 % 152 €/t	67 % 102 €/t	34 % 52 €/t	0 % 0 €/t
EU CIF price (€ / tonne)	603	652	699	746
EU consumption (tonnes)	4 615 271	4 393 698	4 205 173	4 036 683
Non-ACP exports to the EU (tonnes)	3 310 010	2 999 740	2 725 512	2 470 980
ACP exports to the EU (tonnes)	642 367	731 063	816 765	902 809

Panel c. Impacts of setting the tariff at € 75 per tonne on the EU market in function of the share of the general quota rent captured by the non-ACP suppliers

	Quota rent captured by the non-ACP suppliers			
	0 % 0 €/t	34 % 52 €/t	67 % 102 €/t	100 % 152 €/t
EU CIF price (€ / tonne)	603	557	510	463
EU consumption (tonnes)	4 615 271	4 858 100	5 136 812	5 474 168
Non-ACP exports to the EU (tonnes)	3 310 010	2 637 622	4 000 519	4 424 641
ACP exports to the EU (tonnes)	642 367	557 583	473 399	386 632

Policy experiments 3: A binding general quota and capture of the corresponding rent by the non-ACP suppliers varying between 100 and 0 percent, a binding specific quota and capture of the corresponding rent by the West African ACP suppliers varying between 100 and 0 percent

Over the period 1993-2001, EU imports from the ACP states always remained below the specific quota limit of 857 700 tonnes. From 1 January 2002, 100 000 tonnes have been transferred from the specific to the general quota so that the size of the quota reserved to the ACP suppliers is now 750 000 tonnes. Such a quota level appears constraining as 2003 and 2004 figures show (Table 2).

Table 2. ACP exports to the EU, 1999-2004 (1000 tonnes)

	1999	2000	2001	2002	2003	2004
Specific quota	858	858	850	750	750	750
ACP exports to the EU	672	756	730	726	787	771
Difference	182	102	120	24	-37	-21

Sources: NERA and OMP (2004) for the years 1999-2002, FruiTrop for the years 2003 and 2004.

The EU market share of the ACP countries' group is stable since 1993 oscillating around 18.5 %. But while exports from the Caribbean countries, except the Dominican Republic, have decreased,

those from Cameroon and Ivory Coast have increased (Figure 2).[6] The decline of Caribbean exports is more important after the cancellation of country-specific allocations of the ACP quota from 1999. While Caribbean exports represented 58.5 % of total ACP exports to the EU in 1990-92, and still 44.9 % in 1993-98, they accounted for only 24.2 % in 2002-03. Conversely, exports from the two West African countries mainly increased after 1999. While they represented 34.7 % of total ACP exports to the EU in 1990-92, they accounted for 61.7 % in 2002-03. FOB export unit values of Caribbean versus West African countries also exhibit contrasted patterns. Despite export contraction, FOB unit values of the Caribbean countries have not decreased over the last decade. By contrast and despite export expansion, FOB unit values of Cameroon and Ivory Coast have decreased strongly, particularly from 1999. Thank to significant cost reductions over the last decade, West African suppliers now operate in a cost range similar to that of the Latin American suppliers. Production costs in the Caribbean ACP states are much higher (FAO, 2003; NERA and OPM, 2004).

Figure 2. ACP exports to the EU, 1990-2004

The previous discussion suggests that it is not unlikely to assume that the two West African country supplies are currently constrained in the tariff-rate quota regime. This is supported by industry sources reporting that both Cameroon and Ivory Coast are constrained due to the non-availability of import licences under the specific quota (NERA and OMP, 2004). In the third set of experiments, we assume thus that the two West African country supplies are constrained, the share of the corresponding rent captured by the West African suppliers varying between 100 and 0 percent. The remainder goes to importers, wholesalers and distributors within the EU. As regards the general quota and the general quota rent repartition, we assume that the non-ACP suppliers capture 100 % of the general quota rent. Results are presented in Table 3.

[6] In 1990-92, exports from the Dominican Republic represented 2.6 % of total ACP exports to the EU. In 2002-03, they accounted for 13.7 %. For a large part, volumes marketed by the Dominican Republic correspond nowadays to organic or fair trade bananas exported to the United Kingdom.

Table 3. Sensitivity analysis: Impacts of setting the tariff at € 227 per tonne in a regime where the West African suppliers were constrained, the share of the specific quota rent they capture varying between 100 and 0 percent

[Assumptions of experiments 3. The general quota is binding and the non-ACP suppliers capture 100 percent of the corresponding rent. The two West African suppliers are constrained and capture between 0 and 100 percent of the corresponding specific quota rent. The specific quota rent is calculated as the average CIF price in the EU minus the sum of transportation costs between each West African country and the EU, a constant average commercial margin and the FOB price in each West African country.]

	Specific quota rent captured by the West African suppliers				
	0	20	40	80	100
EU CIF price (€ / tonne)	603	603	602	601	600
EU consumption (tonnes)	4 615 271	4 617 381	4 619 495	4 623 741	4 625 874
Non-ACP exports to the EU (tonnes)	3 310 010	3 270 431	3 230 859	3 151 736	3 112 186
ACP exports to the EU (tonnes)	642 367	684 054	725 741	809 110	850 792
Cameroon	205 238	228 669	252 099	298 959	322 388
Ivory Coast	195 144	213 932	232 419	269 392	287 879
Caribbean ACP states	157 173	157 023	156 873	156 572	156 421

Column 2 reproduces the "benchmark" situation corresponding to the following assumptions: the general quota rent is binding and the non-ACP suppliers capture 100 % of the corresponding rent, the specific quota is binding for the West African suppliers who however do not capture part of the corresponding rent.[7] Under these assumptions, a tariff of € 227 per tonne would be equivalent to the tariff-rate quota regime that prevailed in 2000-02. From this situation, increasing the share of the specific quota rent captured by the West African suppliers has a very small impact on the average CIF price in the EU and total EU consumption. When the share increases from 0 to 100 %, EU prices decrease by € 3 and EU consumption increases by 10 000 tonnes. By contrast, increasing the share of the specific quota rent captured by the West African suppliers has a significant impact on the EU import market structure. When the share varies from 0 to 100 %, non-ACP exports to the EU decrease (from 3.31 to 3.11 million tonnes) while West African exports to the EU increase (from 642 000 to 851 000 tonnes). EU imports from the Caribbean ACP states are almost unaffected, decreasing from 157 173 to 156 421 tonnes.

More generally, results reported in Table 3 show that EU prices and imports are not sensitive to the assumption regarding the fact that the West African suppliers are constrained or not, more specifically to the share of the specific quota rent which would be captured by the West African suppliers. By extension, on can claim that EU prices and total EU imports would not be sensitive to the share of the general quota rent which should be captured by the West African suppliers under the assumption that the share of the general quota rent captured by the non-ACP suppliers remains constant. This is not the case if the West African suppliers are able to capture a percentage of the general quota rent not from importers, wholesalers and distributors within the EU, but from the non-ACP suppliers. Simulation results also illustrate a very well known theoretical result. Even in a static competitive world, there is no single tariff (on non-ACP imports) to the current tariff-rate quota regime that would maintain the status quo for the non-ACP suppliers, the West African ACP exporting countries and the Caribbean ACP states as soon as both the general and specific quotas are binding or as soon as ACP country suppliers are able to capture part of general and/or specific quota rents. This non equivalence between the current tariff-rate quota system and the tariff-only regime is likely to be aggravated in a dynamic framework because of productivity rate differences in the various exporting zones. On this point, Guyomard et al. (2005) show that whatever the level of the tariff, non-ACP and

[7] Equivalently, this "benchmark" situation corresponds to a non-binding specific quota for both Cameroon and Ivory Coast.

West African country exports should increase over time in a tariff-only regime while Caribbean ACP exports should decrease (relative to static simulation results). The non equivalence is also likely to be exacerbated in an imperfect competition world.

Table 4 summarizes our analysis. This table is obtained from extreme assumptions which clearly are not realistic. In particular, it is not realistic to assume that the non-ACP suppliers capture 0 % of the general quota rent while the West African suppliers do capture 100 % of the specific quota rent on their exports. In practice, this table simply illustrates the great difficulty of setting the "status-quo" tariff without information on quota rent estimates and quota rent distribution. Information currently available in the public domain is clearly insufficient in that respect, particularly as regards quota rent repartition.

Table 4. Impacts of different tariff levels on the EU banana market in function of assumptions made regarding general and specific quota rent distribution

[Scenario S1 correspond to the "benchmark" situation, i.e., a tariff of € 227 per tonne with 100 % of the general quota rent captured by the non-ACP suppliers and a non-binding specific quota. Scenario S2 corresponds to a very favourable case for the non-ACP countries and a very unfavourable case for the ACP suppliers: the tariff is set at € 75 per tonne although the non-ACP suppliers capture 100 % of the general quota rent and the specific quota is not binding. Conversely, scenario S3 corresponds to a very unfavourable case for the non-ACP countries and a very favourable case for the West African ACP suppliers: the tariff is set at € 227 per tonne although the non-ACP suppliers do not capture part of the general quota rent and the West African suppliers capture 100 % of the specific quota rent on their exports.]

	S1	S2	S3
Tariff (€ / tonne)	227	75	227
General quota rent share captured by the non-ACP suppliers (%)	100	100	0
Specific quota rent share captured by the West African suppliers (%)	0	0	100
EU CIF price (€ / tonne)	603	463	743
EU consumption (tonnes)	4 615 271	5 474 168	4 044 392
Non-ACP exports to the EU (tonnes)	3 310 010	4 424 641	2 270 259
ACP exports to the EU (tonnes)	642 367	386 632	1 111037
Cameroon	205 238	109 717	419 593
Ivory Coast	195 144	110 148	374 678
Caribbean states	157 173	108 656	205 886

4. Concluding comments

The EU is bound by World Trade Organisation agreements to move to a tariff-only import regime for bananas no later than 1 January 2006. From that date, non-ACP exports to the EU will be subject to a single tariff while ACP bananas will continue to enter the EU market duty free. This tariff-only regime will replace the highly contested tariff-rate quota policy in place in the EU since 1993.

This paper shows that setting the tariff on non-ACP banana exports to the EU at "the right level" that maintains the status quo is nearly an impossible mission. This arises essentially because of huge uncertainties surrounding quota rent sizes and more importantly, quota rent distribution among suppliers and exporters on the one hand, importers, wholesalers and distributors within the EU on the other hand. Assuming first that no ACP country is constrained in the current tariff-rate quota regime, we show, unsurprisingly, that the higher the capture of the general quota rent by the non-ACP

suppliers, the higher the static status-quo tariff that maintains ACP exports at base period levels. When the capture is 100 % , the static status-quo tariff is € 227 par tonne. When the capture is zero, the static status-quo tariff is € 75 per tonne. This second assumption is retained by, for example, Borrell and Mauer (2004) who, accordingly, find that the tariff should be set at a low level around € 75 per tonne (precisely, € 64 per tonne). Several factors however suggest that the non-ACP suppliers / exporters are able to capture at least part of the general quota rent on their exports.

One will note first that the import licensing system has been modified several times since 1993. Initially, three categories of operators were distinguished with 66.5 % of the general quota reserved to established operators for third country and non-traditional ACP bananas (category A), 30 % reserved to established operators that marketed EU and ACP bananas, and 3,5 % reserved to new operators who wanted to start to import bananas from non-ACP and/or non-traditional ACP sources.[8] Within each category, licenses were allocated on the basis of market shares in the various stages of the banana chain with 57 % reserved to primary importers, 15 % to secondary importers and 28 % to ripening. The 1999 CMOB reform suppressed the system of license allocations by categories of operators (A, B or C) and the 2001 CMOB reform changed the definition of "traditional operators" in favour of "primary importers". According to FAO (2004), these traditional operators correspond to category A operators defined by EC Regulation 404,093, i.e., "companies that are directly involved in the production or shipment of bananas in the supplying countries". The world and EU banana export and import market is dominated by four multinational companies (Chiquita, Del Monte, Dole and Fyffes) and one Ecuadorian firm (Noboa).[9] Even if the direct involvement of the multinational firms in production in the non-ACP countries has decreased since 1993, their total involvement, i.e., direct and indirect through joint ventures and/or long-term agreements, is still very important, much higher than 50 % in many Latin American states (FAO, 2003).[10] In total, the five top "multinational" banana firms controlled around 70 % of world exports in 2002, and more than that in terms of world imports. As a result, we consider that the non-ACP suppliers / exporters are able to capture an important part of quota rents. Unfortunately, information currently available in the public domain is insufficient to assess the quota rent share they capture.

The world export and import banana market is dominated by a few number of firms. This immediately raises the issue of perfect versus imperfect competition (recall that all studies reviewed in this paper assume perfect competition). More specifically, the question arises as to how our analysis is sensitive when perfect competition assumptions are relaxed. There is clearly an important need for further research in this area. At this stage, one will simply note that market concentration does not automatically imply that the world export and banana market is not competitive. FAO (2003) notes that "in spite of its rather oligopolistic nature, trade in bananas is extremely competitive". In a similar vein, Hermann and Sexton (1999) show that the German banana market cannot be characterized by the exercise of market power despite the very low number of firms that compete in that market (the four-firm concentration ratio is greater than 80 % for Germany).

References

Borrell B., Yang M.C., 1990, EC banarama 1992. WPS 523, Washington D.C., International Economics Department, The World Bank.

[8] Traditional shippers of EU and ACP bananas were allocated with 30 % of the import licences with the clear intent that the extra profits they could earn by shipping non-ACP bananas and/or selling the import licenses to non-ACP shippers should be used to cross-subsidize their EU or ACP operations (Swinbank, 1996).

[9] While Chiquita, Del Monte and Dole are "United States" companies, Fyffes is an "Irish" company. It substantially raised its EU market share from 1993 following the CMOB implementation, notably the reservation of 30 % of import licenses to category B operators.

[10] Exceptions are Ecuador and Nicaragua, and Colombia to a lesser extent.

Borrell B., Cuthberston S, 1991, EC banana policy 1992: picking the best option. Canberra, Centre for International Economics.

Borell B., Yang M.C., 1992, EC Bananrama 1992, the sequel, the EC Commission proposal. WPS 958, Washington D.C., International Economics Department, The World Bank.

Borrell B., Mauer M., 2004, EU banana drama: Not over yet; New distortions from a high tariff-only policy. Centre for International Economics, Canberra and Sydney.

European Commission (2004). *Banana Imports: EU Regrets Latin American Banana Exporting Countries Request for WTO Arbitration on the EU's Proposed New Tariff for Bananas*. European Commission, Press Releases, IP/05/377.

FAO (2003). *The World Banana Economy, 1985-2002*. FAO, Commodities and Trade Division; Raw Materials, Tropical and Horticulture Products Service; FAO Commodities Studies 1.

FAO, 2004, Bananas: Is there a tariff-only equivalent to the EU tariff-rate quota regime? Insights from economic analysis. FAO Trade Policy Technical Notes on Issues related to the WTO Negotiations on Agriculture, n°3.

Guyomard H., Laroche C., Le Mouël C., 1999a, Impacts of the common market organisation for bananas on European markets, international trade and welfare. *Journal of Policy Modelling* 21(5), 619-631.

Guyomard H., Laroche C., Le Mouël C., 1999b, An economic assessment of the common market organisation for bananas in the European Union. *Agricultural Economics* 20, 105-120.

Guyomard H., Le Mouël C., 2003, The new banana import regime in the European Union: A quantitative asssesment. *The Estey Centre Journal of International Laws and Trade Policy* 4(2), 143-161.

Guyomard H., Le Mouël C., Levert F., Lombana J., 2005, The tariff-only import regime for bananas in the European Union: Impacts on ACP and non-ACP suppliers. Forthcoming in *EuroChoices*.

Hermann R., Sexton R., 1999, Re-distributive implications of a tariff-rate quota policy: how market structure and conduct matter. University og Giessen, Discussion Papers in Agricultural Economics, 52.

NERA Economic Consulting and Oxford Policy Management (OPM), 2004. Addressing the impact of preference erosion in bananas on Caribbean countries. Report for the United Kingdom Department for International Development (DFID), London and Oxford.

Raboy D., 2004, Calculating the tariff equivalent to the current EU banana regime. Patton Boggs LLP, Washington.

Swinbank A., 1996, Capping the CAP? Implementation of the Uruguay Round Agreement by the European Union. *Food Policy* 21, 393-408.

Vanzetti D., de Cordoba S.F., Chau V., 2004, Banana split: How EU policies divide global producers. Trade Analysis Branch, UNCTAD, Geneva (paper presented at the FAO Informal Expert Consultation on Banana Trade Policies, 28-29 October 2004, Rome). [revised 6 April 2005]